

研究论文

生态足迹理论在生态市建设规划中的应用——以海口市为例

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收稿日期 2007-4-4 修回日期 2007-4-20 网络版发布日期: 2007-5-25

摘要 生态市建设规划是促进区域可持续发展的有效措施, 而生态足迹理论作为定量测度发展的可持续状态的一类生物物理方法对于定量描述区域发展现状、判断发展中的基本问题具有重要的借鉴作用。生态足迹分析应用到生态市建设规划中可以 (1) 分析可持续发展进程, 明确城市可持续发展状态; (2) 明确城市一定人口的消费对环境产生的后果以及与可持续发展相关的重要资源问题; (3) 为合理开展生态市建设规划、减少生态足迹提供决策信息。本研究根据海口生态市建设规划实践剖析了生态足迹理论在明确上述3个方面中的应用。结果表明: 海口市2002年生态足迹为生态承载力的5.6倍, 处于不可持续状态。出现赤字的土地类型依次为耕地、水域、化石燃料用地和草地, 其中耕地赤字为各项需求之首。海口市2002年万元GDP的生态足迹为0.93hm², 表现为资源利用效率较低, 但海口市生态占用率较小, 生态环境压力相对较小。根据海口市生态环境现状, 减少生态足迹、提高可持续发展能力的规划途径主要为: 通过保护土地资源和提高科技发展水平改善耕地和草地赤字的现状; 通过构建城市生态交通和构建生态建筑与节能体系来缓解化石燃料用地的压力; 通过发展循环经济 and 转变消费模式来提高资源利用效率; 通过控制人口增长来提高人均生态承载力。

关键词 [生态足迹](#); [生态承载力](#); [生态盈余](#); [生态赤字](#); [可持续发展](#); [海口市](#)

分类号 [Q149](#), [Q988](#), [F590](#)

Application of ecological footprint theory in eco-city planning: a case study in Haikou City

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Abstract Eco-city planning is one of the effective measures improving the ability of sustainable development in regional level. The theory of Ecological Footprint (EF), a bio-physical method measuring sustainable development situation, takes great effect in describing regional development situation, and judging basic development problems. Application of EF in eco-city planning can (1) analyze the process of sustainable development and judge the situation of sustainable development of cities, (2) make clear the environmental results brought by human's consumption, (3) provide information for carrying out eco-city planning. The application of EF in the above 3 aspects was realized in the eco-city planning of Haikou. The result shows that in 2002 the EF of Haikou city is 5.6 times of ecological carrying capacity, and Haikou city was in a unsustainable situation. Land types with ecological deficit include cropland, water body, land for petrol-fuel and grassland, of which cropland has the largest ecological deficit. EF of 10-thousand yuan of GDP in 2002 was 0.93hm², meaning relatively low efficiency of resource utilization in Haikou City. Meanwhile Haikou city had comparatively small ecological occupying rate, meaning a relatively small environmental pressure. Based on the current eco-environmental situation, some planning measures as follows can be taken to decrease EF and improve sustainable development ability: (1) Current ecological deficit situation of cropland and grassland can be improved by protecting land resources and improving scientific development level; (2) Pressure from fossil energy land may be lessened by establishing urban ecological transportation, ecological building, and energy-saving systems; (3) Efficiency of resources utilization can be improved by developing recycling economy and changing consumption modes; (4) Ecological capability per capita can be improved by controlling population increase.

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Key words ecological footprint ecological carrying capacity ecological surplus ecological deficit sustainable development Haikou City

DOI

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